DOCKET FILE COPY ORIGINAL

ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Pacific Bell Petition for	)	
Rulemaking to Amend Section 69.106	)	RM-8496
of the Commission's Rules to	)	
Establish a Call Setup Charge	)	

OPPOSITION OF THE AD HOC TELECOMMUNICATIONS USERS COMMITTEE TO PETITION FOR RULEMAKING

AD HOC TELECOMMUNICATIONS
USERS COMMITTEE

James S. Blaszak
Francis E. Fletcher, Jr.
Gardner, Carton & Douglas
1301 K Street, N.W.
Suite 900, East Tower
Washington, D.C. 20005
(202) 408-7100

Its Attorneys

Economic Consultant:

Dr. Lee L. Selwyn
Susan M. Gately
Economics and Technology, Inc.
One Washington Mall
Boston, Massachusetts 02108
(617) 227-0900

August 22, 1994

TABLE OF CONTENTS

SUMMARY

Restructuring of the Local Switching rate element to incorporate a flat-rated per-call set up charge, as proposed by Pacific Bell, should be considered only in a comprehensive access charge system reform proceeding that treats the interrelated subsidies found in the existing system of universal service support mechanisms, jurisdictional separations procedures, access charge rate structures, and access charge pricing rules. In its Access Reform Petition (RM-8480), the Ad Hoc Committee has presented a proposal for initiating this process in a coordinated way that can best achieve an orderly transition toward elimination of uneconomic subsidies and achievement of more cost-based pricing of access while maintaining a fair balancing of interests and minimal disruption. The key to the effectiveness of this process is coordination of the treatment of individual subsidy issues in a single comprehensive proceeding. It would not be appropriate or effective to consider the Pacific Bell request in isolation. If considered at all, it should be rolled into the comprehensive access reform rulemaking called for by the Ad Hoc Committee and other industry representatives.

Apart from the foregoing, the Petition should be denied because it fails to present adequate data to indicate whether or not "long" calls subsidize "short" calls, and fails to demonstrate that short duration callers are not bearing their own costs as alleged. Pacific Bell's raw estimates of the growth of

short duration transaction processing applications over recent years are meaningless unless analyzed in relation to changes in the overall character of its switched network traffic during a comparable period. Further, the call set up cost figures provided in the Petition appear to be overstated and, in any event, are not adequately supported, explained or justified.

Before a call set up charge is implemented, the Commission should consider the impact on network efficiency of moving to a structure that no longer rewards short holding times, and should carefully analyze the costs to American businesses dependent upon economical transaction processing. If a change in the existing local switching rate structure is ultimately found to be in the public interest, an appropriate transition or phase-in period should be required.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Pacific Bell Petition for	)	
Rulemaking to Amend Section 69.106	)	RM-8496
of the Commission's Rules to	)	
Establish a Call Setup Charge	)	

OPPOSITION OF THE
AD HOC TELECOMMUNICATIONS USERS
COMMITTEE TO PETITION FOR RULEMAKING

The Ad Hoc Telecommunications Users Committee ("Ad Hoc Committee" or "Committee"), pursuant to Section 1.405 of the Commission's Rules, hereby opposes the Petition for Rulemaking ("Petition") filed June 30, 1994 by Pacific Bell.[1/]

I. BASIC RESTRUCTURING OF THE LOCAL SWITCHING RATE ELEMENT, AS PROPOSED BY PACIFIC BELL, SHOULD BE CONSIDERED ONLY IN THE CONTEXT OF COMPREHENSIVE ACCESS CHARGE SYSTEM REFORM

The Petition proposes that the Commission amend Section 69.106 of the Rules to restructure the local switching charge to encompass a per-message call setup charge in addition to the per minute usage charge. The gravamen of Pacific Bell's complaint is that the "explosive growth" in recent years of facsimile, paging, transaction processing and other short duration (less than one minute) calls has resulted in "long calls subsidiz[ing] short calls" under the existing Part 69 per-minute-of-use local

---

1/ Public notice of the filing of the Petition was given pursuant to Section 1.403 of the Commission's Rules on July 21, 1994. See, Public Notice, Report No. 2022 (rel. July 21, 1994).

switching charge structure. Petition, p. 1. Pacific Bell seeks to remedy this "cross-subsidy", and to have the "cost causer pay the appropriate amount" (Petition, pp. 7-8), through imposition of a separate flat-rated call set up charge to be applied in addition to a per minute of use charge.

Concern with cross subsidies found within the current access charge system is not unique to Pacific Bell. Indeed, there now appears to be a broad consensus among diverse interests in the telecommunications industry, including the Ad Hoc Committee, that immediate access system reform is necessary to remove uneconomic subsidies built into the current structure and move toward a more cost based system.[2/] Certainly, the Ad Hoc Committee fully supports the general principle of costs being borne by the "cost causer." The question is not whether, but how best, to pursue these objectives as the local exchange and exchange access marketplaces transition toward competition.

[2/] See, Petition for Rulemaking of The Ad Hoc Telecommunications Users Committee (RM-8480), filed April 15, 1994 ("Access Reform Petition"). Comments received in response to the Access Reform Petition pursuant to Public Notice, Report No. 2013 (rel. June 2, 1994) were generally favorable. Other pending access reform proposals include: In the Matter of Petition For Declaratory Ruling And Related Waivers to Establish a New Regulatory Model for the Ameritech Region, DA 93-481, released April 27, 1993; In the Matter of NARUC Petition For Notice of Inquiry Addressing Access Issues, DA 93-847, released August 3, 1993; Federal Perspectives on Access Charge Reform, A Staff Working Analysis, April 30, 1993; In the Matter of Amendments of the Rules to Reform Interstate Access Charges: USTA Petition for Rulemaking, Public Notice (Report No. 1975), released October 1, 1993.

The Ad Hoc Committee's views on this subject are detailed in its Access Reform Petition, which calls for comprehensive review of not only the Part 69 access charge rate structure and access pricing (i.e., price caps), but of existing universal service funding mechanisms and Part 36 jurisdictional separations procedures as well. Because of their close interrelationship, all of these areas must be addressed concurrently, and in a coordinated fashion. As stated in the Committee's Access Reform Petition:

> The overall level of revenue requirement allocated between the federal and state jurisdictions by the separations process is directly affected by the scope and definition of universal service. In turn, the extent to which Part 69 access charge rules can be reformed is directly affected by how the separations system allocates the revenue requirement. In addition to the explicit subsidies provided through universal service funding mechanisms, there are numerous implicit subsidy flows inherent to the overall pricing of telecommunications under the current separations system whereby certain services are priced well in excess of costs while others are priced so as to make no or minimal contribution to fixed overheads and common costs. Thus, separations drives access policy, and there can be no serious examination of access reform without first moving towards resolving inefficiencies in the underlying process by which costs are assigned to and recovered from the respective state and federal jurisdictions. And, until uneconomic cost recovery methods endemic to the existing separations process are addressed and remedied, access costs can not be recovered in an economically efficient manner and comprehensive access reform is impossible.[3/]

[3/] Access Reform Petition, pp. 9-10. (Footnote omitted). While separations undoubtedly drives access, the Ad Hoc Committee was able to devise a means whereby access reform might move forward in a parallel proceeding with separations reform. This would require, however, that the Commission "de-link" the Part 36 Jurisdictional Separations Rules from the Part 69 Access Charge Rules on an interim basis. Under this interim arrangement, the Access Charge Rules would

(continued...)

Assuming for the sake of argument that the cross subsidy identified by Pacific Bell in the Local Switching category exists,[4/] it is but a small fraction of the host of interrelated subsidies woven into the universal service support mechanism/jurisdictional separations procedure/access charge rule stew which defines the existing system. The numerous pending proposals for access reform demonstrate that it would be fruitless and counterproductive to attempt to resolve individual cross subsidy issues in isolation. As shown in the Ad Hoc Committee's Access Reform Petition, the essential feature of the access reform process must be a coordinated effort to address the broader cross subsidy issues that need to be resolved.[5/]

For example, it is believed the existing separations system attributes to the traffic sensitive access service category certain cost sources (revenue requirement) that are not

---

[3/](...continued)
continue to rely on the Separations Rules only for the development of a bottom line (rather than category-by-category), total interstate revenue requirement. Access Reform Petition, pp. 12-14.

[4/] The merits of Pacific Bell's complaint (i.e., whether there is, in fact, a cross-subsidy) are addressed in the following section.

[5/] In addition to effecting access charge reform only in coordination with support mechanism and jurisdictional separations reform, access charge reform must proceed in a way which will achieve an orderly transition and a fair balancing of interests and, at the same time, result in minimal disruptions. Access Reform Petition, p. 2. Imposition of a flat rated call set up charge as proposed by Pacific Bell would be highly disruptive to the transaction processing business built upon the current rate structure.

in reality traffic sensitive. As a result, the access pricing rules cannot be reformed to allow traffic sensitive prices to more closely track traffic sensitive costs because those prices must also recover that portion of the non-traffic sensitive revenue requirement assigned (erroneously) by the separations process.[6/]

Similarly, revenue requirement increases driven by state-approved infrastructure modernization plans are automatically flowed through to interstate access services, especially traffic sensitive services, through the workings of the separations and access charge rules. Thus, even infrastructure plans that might be limited, for example, to the deployment of fiber facilities to schools, may result in increases in interstate switched access revenue requirements.[7/] Infrastructure investment driven subsidies are an especially topical concern in light of the vast expenditures currently being undertaken by Pacific Bell and other BOCs in video dialtone and

---

6/ Access Reform Petition, Exhibit A (Access And Competition: The Vital Link, Economics and Technology, Inc., March 1994) ("ETI Report"), p. 4.

7/ Id. See also, ETI's discussion of the non-traffic sensitive cost assignment problems (the disparate recovery of NTS costs through fixed monthly end user (SLC) charges at the federal and state levels), traffic sensitive cost assignment problems (the weighting of toll use assigning a disproportionate weight to interstate use relative to total use), and problems inherent in the disproportionately high level of revenue requirement assigned to the interstate jurisdiction generally (as evidenced by the need for so-called "residual interconnection charge" following the restructure of transport charges). Id. at pp. 25-27.

other broadband networks.[8/] In this regard, a recent federal-state affiliate transaction audit report on three RBHCs, including Pacific Telesis, revealed that they are "pouring billions of ratepayer dollars into network infrastructure enhancements needed primarily to benefit their non-regulated affiliates in competitive video and information service markets."[9/] Subsidization of competitive ventures by captive monopoly services is thus another area for concern in considering local exchange carrier requests for access charge system reform, and provide a revealing context within which to assess claims of "economic hardship" such as those advanced by Pacific Bell here. Petition, p. 8.

To the extent it exists, the cross subsidy complained of by Pacific Bell is one of many subsidies intertwined throughout the USOA, support mechanism, separations and access

---

[8/] See, Pacific Bell Section Application For Authority Pursuant to Section 214 to Construct and Maintain Facilities to Provide Video Dialtone Services to Selected Communities in the Orange County, California Area (W-P-C-6913).

[9/] State Telephone Regulation Report, Vol. 12, No. 16 (August 11, 1994), p. 1. The auditors noted with respect to modifications specifically to Pacific Bell's network infrastructure: "[U]nder Pacific Telesis' corporate policy, only its shareholders will realize the profits from these [competitive enhanced service infrastructure] projects. Ratepayer cost-benefit studies were not performed prior to starting development projects." Other problems found by the auditors included: charging R&D costs of competitive products and services to ratepayers, allocating costs of competitive ventures to ratepayers, transferring assets to non-regulated affiliates to shield revenues or potential revenue streams from regulation, and poor internal procedures for tracking and assigning project costs. Id. at p. 2.

pricing melange, and would represent a relatively minor aspect of the overall problem. Local exchange carriers cannot be allowed to "cherry pick" perceived cross-subsidies that are not to their advantage, while continuing to benefit from others. Restructuring of the Local Switching rate element can be considered appropriately only in the broader context of addressing related subsidy mechanisms in a proceeding providing for an orderly transition and fair balancing of interests of, and minimal disruptions to, all parties (including transaction processing users who would be severely impacted under a rate re-structure such as that proposed by Pacific Bell). Pacific Bell's Petition should not be addressed in isolation but, if considered at all,[10/] must be rolled into the comprehensive access reform proceeding proposed by the Committee.

II. THE PETITION FAILS TO SUBSTANTIATE PACIFIC BELL'S CLAIM OF CROSS SUBSIDIZATION

The premise of Pacific Bell's request is that its "long calls subsidize [its] short calls." Petition, pp. 1 and 7. However, the Petition is conclusory and fails to present sufficient data to demonstrate the alleged cross subsidization, even assuming that the few numbers provided by Pacific Bell, numbers which cannot be tested because of the absence of

---

10/ As discussed in the following section, other infirmities warrant denial of the Petition.

explanation or support materials, are accurate.[11] The factual assertions set forth in the Petition relative to the claim of cross subsidization are essentially as follows:

- the volume of transaction processing and other short duration calls has grown in recent years and continues to grow (Petition, pp. 2-5);
- the current switching rate ($.009953/minute) is based on the average length of a call (3.86 minutes), so that calls of less than 3.86 minutes do not recover their costs, while calls greater than 3.86 minutes over-recover their costs (Petition, p. 2);
- it costs almost five times more to set up a call than to provide a minute of use (Petition, p. 6);[12]

The Ad Hoc Committee does not take issue with Pacific Bell's observation that short duration applications have grown substantially since the access charge structure was adopted in 1984, or with the likelihood that they can be expected to continue to grow.[13] But these observations are meaningless

---

[11] As discussed below, there are reasons to believe the numbers are not accurate.

[12] This is based on the following cost figures: call set up ("direct cost (plus overheads)" of $.01621, and per minute of use cost of $.00343.

[13] It should be noted, nonetheless, that Pacific Bell's assertions concerning the growth of short duration applications are loosely documented. For example, Pacific Bell points to the growth in fax machines (43% in California businesses from 1989 to 1990) as a demonstration of fundamental changes in the types of calls placed over the network, claiming that "many calls placed to and from fax machines are short-burst, one page fax transmissions." Petition, p. 3. Pacific Bell fails to quantify "many" and no support is given for the contention that "many" fax calls are single page transmissions. Finally, statistics on the

(continued...)

unless analyzed in relation to changes in the overall character of Pacific Bell's switched network traffic during the comparable period. As presented in the Petition, Pacific Bell's out-of-context analysis is seriously flawed. For example, while referencing generally the "billions" of credit card transactions occurring annually (Petition, p. 5), Pacific Bell fails to provide (and, apparently has failed to consider) the percentage of overall network traffic these "billions" of calls comprise. Are these calls responsible for 2%, 20% or 80% of Pacific's total interstate access calls? The answer is critical to an analysis of Pacific Bell's cross subsidization claim.

Similarly, although the Petition asserts that "[t]here can be no dispute that there are billions more very short calls currently than there were in the past" (Petition, p. 5), it fails to take into account the very substantial growth that has also occurred in traditional voice telephony. During the same period of time that short duration call applications have been growing, the decline in interstate toll prices has stimulated tremendous demand for traditional, longer duration calling as well. It is thus quite likely (although impossible to determine from the scanty data presented in the Petition) that although growing in number, short duration calls may be a smaller percentage of total

---

[13/] (...continued)
growth in the number of fax machines for a single year some five years ago provide no indication of the number of calls that may have been generated by these machines.

calls today that in the past.[14/] Indeed, Pacific Bell fails to reveal the single piece of data that might provide the clearest indication of the impact short duration calls are having on the interstate switched service market; it provides an "average call duration" figure, but offers no information as to how, if at all, that figure has changed over the past decade.

The data provided by Pacific Bell also appears to be inconsistent with its conclusions. Thus, Pacific Bell maintains that the average call holding time is 3.86 minutes and that "calls less than 3.86 minutes generally do not recover their costs; calls longer than 3.86 minutes over-recover their costs." (Petition, p. 2). Yet the pricing and cost support information contained elsewhere in the Petition demonstrates that calls of 2.5 minutes (not 3.86 minutes) in length or greater "over-recover" their costs[15/]. Thus, even assuming that Pacific Bell's call set up cost data is not overstated, its own numbers demonstrate that Pacific Bell's existing local switching charge

---

[14/] At page 4 of the Petition, Pacific Bell quotes from comments filed by various credit card transaction processors in the 800 Data Base Proceeding in which, according to Pacific Bell, they "acknowledged that the types of calls they use are substantially shorter than one minute in length", running in the 15 to 20 second range. This statement is somewhat misleading in that it does not take into account that these companies, in addition to their transaction processing calls, no doubt have substantial voice network traffic. It is unlikely that any of Pacific's customers have average holding times in the 15 to 20 second range.

[15/] According to the information provided in the Petition, the price of a 2.5 minute call is $0.02488 ($0.009953 X 2.5). This exceeds the cost of a 2.5 minute call at $0.02478 (($0.01621) + (0.00434 X 2.5)).

is "over-recovering" costs for all customers with local calling in excess of 2.5 minutes. Given an average Pacific Bell call duration of 3.86 minutes, it appears that it will be quite some time, if ever, before Pacific Bell needs to be concerned with being unable to recover its costs.

Of course, without access to the underlying data and assumptions used by Pacific Bell to derive its call set up and per minute cost figures ($.01621 and $.00343, respectively), they are impervious to scrutiny and verification. There are, however, indications the call set up charge may be significantly overstated and should be looked upon critically. Based on its review of incremental cost data associated with local, toll and access service call set up charges filed by various local exchange carriers with state regulators in recent years, the Ad Hoc Committee's economic consultant, Economics and Technology, Inc., finds Pacific Bell's call set up costs to be in excess of any it has encountered. As a recent example, attached hereto is a chart containing the results of the most recent incremental cost study filed by New England Telephone ("NET") in Massachusetts.[16/] In this proceeding, NET identified its per call set up costs as $0.001332,[17/] less than one-tenth the

---

16/ Chart 2, Interoffice Service, filed in Docket No. 94-50 in support of Testimony of Thomas W. Caldwell, NET Managing Director, July 1, 1994.

17/ Chart 2, p. 2, L17.

unsubstantiated call set up costs claimed by Pacific Bell in its Petition.

One reason for the apparent overstatement of Pacific Bell's call set up cost is that it includes unidentified and unquantified "overhead" in addition to "direct" costs. Pacific Bell provides no indication of how much overhead is attributed, how overhead was allocated, or how the direct cost itself was calculated, but the methods in which central office costs generally are allocated by local exchange carriers to the various functionalities performed by the switch are arbitrary at best. To take such arbitrarily assigned and undisclosed overhead costs, and attempt to use them as the basis for a conclusion that a particular class of customer (i.e., short duration callers) is not bearing "its costs" is doubly arbitrary and insupportable.

To illustrate, consider that Pacific Bell has been in the process of upgrading its central office equipment throughout the state of California. A variety of justifications have been proffered for the switch replacement program, but few, if any, are related to the provision of plain vanilla switching for interstate access. Nonetheless, it is the costs of these switches, including the costs associated with replacements, that are driving the development of Pacific Bell's local switching costs. It would be reasonable to assume, for example, that absent the modernization that is ongoing in Pacific's network, the per call set-up cost, keeping all of Pacific's other unknown assumptions constant, might be $0.00621, $0.01 less than shown in

the Petition, and more in line with other call set up cost figures the Committee has reviewed. If in fact an additional $0.01 in call set-up costs flows from Pacific Bell's switch modernization program, it is difficult to imagine that short duration callers can be shown to be "cost causers" not adequately contributing to total set up costs of $0.01621 per call.

At the outset of its access charge regime, the Commission determined that the costs associated with Local Switching were best recovered through usage-sensitive charges.[18/] The Commission, despite numerous reviews of the Local Switching rate elements,[19/] has never wavered from this judgment. It may or may not prove accurate, as Pacific Bell contends, that "[a]s call duration decreases due to the introduction of new technologies, Pacific Bell may not in the future be able to recover all of its costs using the current switched access rate structure."[20/] The mere possibility that

---

18/ See MTS and WATS Rate Structure, Third Report and order, 93 F.C.C.2d 241, ¶¶ 217-25 (1983), modified on further reconsideration, 97 F.C.C.2d 682 (1983), modified on further reconsideration, 97 F.C.C.2d 834 (1984), aff'd in principal part and remanded in part, National Ass'n of Regulatory Utility Comm'rs v. FCC, 737 F.2d 1095 (D.C. Cir. 1984), cert. denied, 469 U.S. 1227 (1985), modified on further reconsideration, 99 F.C.C.2d 708 (1984), 101 F.C.C.2d 1222 (1985), aff'd on further reconsideration, 102 F.C.C.2d 849 1985).

19/ See e.g., Amendment of Part 69 of the Commission's Rules and Regulations, Access Charges, to Conform it With Part 36, Jurisdictional Separations Procedures, 63 Rad.Reg.2d (P&F) 1016, ¶¶ 75-91 (1987).

20/ Petition, p. 7. Emphasis added.

this might some day occur, however, surely does not justify restructuring the Local Switching rate element. The Petition fails to demonstrate that Pacific Bell's "long calls subsidize short calls" or to warrant the proposed rate restructuring.

III. BEFORE A CALL SET UP CHARGE IS CONSIDERED, THE COMMISSION SHOULD ASSESS THE LIKELY EFFECTS ON NETWORK EFFICIENCY AND USAGE, AS WELL AS THE COST TO AMERICAN BUSINESS, AND, AT A MINIMUM, SHOULD IMPLEMENT A TRANSITION PERIOD TO AVOID RATE SHOCK

The existing per minute Local Switching rate structure was adopted by the Commission advisedly; it rewards the development of applications that shorten the holding times of calls, thereby encouraging efficient use of the network. The Commission should consider that, aside from unfairly penalizing American businesses that have developed these efficient and useful applications, implementation of a call set up charge would adversely affect efficient use of the network and change dramatically the manner in which short duration applications are completed. Had the Commission chosen to implement the call set up charge rate structure proposed by Pacific Bell at the time the access tariffs were originally implemented, it is virtually certain that the transactions processing business would have developed quite differently than it has today. Therefore, before initiating a restructuring of the Local Switching rate element, the Commission should consider the potential effects on network efficiency of such a change, and examine the costs that will be incurred by American businesses in finding alternative methods

for completing short duration applications.[21/] Such costs must be weighed against the perceived benefits of any such restructure of the Local Switching rate element. Finally, any restructuring that might ultimately be adopted should be phased in appropriately to ameliorate rate shock to users.

IV. CONCLUSION

The Ad Hoc Committee urges the Commission to deny Pacific Bell's Petition for the reasons stated herein.

Respectfully submitted,

AD HOC TELECOMMUNICATIONS USERS COMMITTEE

James S. Blaszak
Francis E. Fletcher, Jr.
Gardner, Carton & Douglas
1301 K Street, N.W.
Suite 900, East Tower
Washington, D.C. 20005
(202) 408-7100

Its Attorneys

Economic Consultant:

Dr. Lee L. Selwyn
Susan M. Gately
Economics and Technology, Inc.
One Washington Mall
Boston, Massachusetts 02108
(617) 227-0900

August 22, 1994

21/ Although seemingly overlooked by Pacific Bell, the restructuring it proposes could adversely affect its own revenues. Thus, a call set up charge could result in significant migration of short duration transaction processing traffic from the network to alternative technologies such as VSAT.

CHART 2

INTEROFFICE SERVICE

L1.	End Office Switching unit cost	$0.001290
L2.	Line Haul unit cost	$0.000088
L3.	Fiber Termination unit cost	$0.001170
L4.	Other Termination unit cost	$0.000554
L5.	Tandem Switching unit cost	$0.000230
L6.	End Office Switching units	2
L7.	Line Haul circuit miles	28.87
L8.	Fiber Termination units	2.8324
L9.	Other Termination units	2
L10.	Tandem Switching units	0.4162
L11.	End Office Switching (L1 x L6) cost per peak conversation minute	$0.002580
L12.	Line Haul (L2 x L7) cost per peak conversation minute	$0.002533
L13.	Fiber Termination (L3 x L8) cost per peak conversation minute	$0.003315
L14.	Other Termination (L4 x L9) cost per peak conversation minute	$0.001107

CHART 2

INTEROFFICE SERVICE

L15.	Tandem Switching (L5 x L10) cost per peak conversation minute	$0.000096
L16.	Interoffice Marginal (L11 + L12 + L13 + L14 + L15) cost per peak conversation minute	$0.009631
L17.	Interoffice Marginal cost per message	$0.001332

NOTES

L1.-L5. The end office switching and transport costs are developed in Tab A, Charts 1-5.

L6. Two units of end office switching are required for an interoffice line to trunk minute. One unit is required for the originating end office. The second unit is required for the terminating end office.

L7. The average interoffice call requires 28.87 circuit miles of line haul. The average local line haul is 6.33 miles; the Eastern LATA toll line haul is 49.24 miles and the Western LATA toll line haul is 54.92. These are weighted by minutes to produce the average line haul circuit miles. Chart 5 displays the calculations.

L8. The average interoffice call requires 2.8324 units of fiber terminations. A directly routed call requires a termination at the originating and terminating end offices. A tandem routed call requires terminations on the incoming and outgoing facilities in addition to the end offices. An intertandem call has the same requirements as a tandem call, with an additional tandem added resulting in 6 terminations. Each type of interoffice routing is weighted by its busy hour CCS load resulting in an average of 2.8324 terminations per interoffice call. Chart 5 shows these calculations.

L9. Other terminations are only required at each of the end offices since the tandem switching marginal cost includes the cost of the tandem "other" terminations.

CERTIFICATE OF SERVICE

I, Elizabeth A. Fertig, a secretary in the law offices of Gardner, Carton & Douglas, do hereby certify on August 22, 1994, a true copy of the foregoing "Opposition of the Ad Hoc Telecommunications Users Committee to Petition for Rulemaking" was sent by United States first class mail, postage prepaid, to the following:

James P. Tuthill
Nancy C. Woolf
Pacific Bell
140 New Montgomery St., Rm. 1532
San Francisco, California 94105

James L. Wurtz
Pacific Bell
1275 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

Kathleen M. H. Wallman*
Chief, Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 500
Washington, D.C. 20554

Peyton Wynns, Chief*
Industry Analysis Division
Federal Communications Commission
1250 23rd Street, N.W., Plaza Level
Washington, D.C. 20554

Gregory J. Vogt*
Chief, Tariff Division
Federal Communications Commission
1919 M Street, N.W. - Room 832
Washington, D.C. 20554

Robert M. Pepper*
Chief, Office of Plans and Policy
Federal Communications Commission
1919 M Street, N.W. - Room 822
Washington, D.C. 20554

James D. Schlichting*
Federal Communications Commission
Common Carrier Bureau
1919 M Street, N.W. - Room 544
Washington, D.C. 20554

Rudy Baca*
Office of Commissioner
James H. Quello
Federal Communications Commission
1919 M Street, N.W. - Room 802
Washington, D.C. 20554

James Coldfarb*
Office of Commissioner
Andrew C. Barrett
Federal Communications Commission
1919 M Street, N.W. - Room 802
Washington, D.C. 20554

Richard K. Welch*
Office of Commissioner
Rachelle Chong
Federal Communications Commission
1919 M Street, N.W. - Room 844
Washington, D.C. 20554

Ruth Milkman*
Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W. - Room 544
Washington, D.C. 20554

ITS, Inc.*
1919 M Street, N.W., Room 246
Washington, D.C. 20554

Elizabeth A. Fertig

* By Hand Delivery
E:\DMS\FEF\PLD\80961.1